



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019  
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

### **Rupp #2-15**

### **15-13s-21w Trego,KS**

Start Date: 2018.01.28 @ 14:50:24

End Date: 2018.01.28 @ 20:32:48

Job Ticket #: 63502                      DST #: 1

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.02.02 @ 09:06:19



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63502

**DST#: 1**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.28 @ 14:50:24

## GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:54:04

Time Test Ended: 20:32:48

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 77

**Interval: 3450.00 ft (KB) To 3480.00 ft (KB) (TVD)**

Reference Elevations: 2194.00 ft (KB)

Total Depth: 3480.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8360**

**Inside**

Press@RunDepth: 31.56 psig @ 3452.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.28

End Date:

2018.01.28

Last Calib.:

2018.01.28

Start Time: 14:50:24

End Time:

20:32:48

Time On Btm:

2018.01.28 @ 16:51:19

Time Off Btm:

2018.01.28 @ 19:03:04

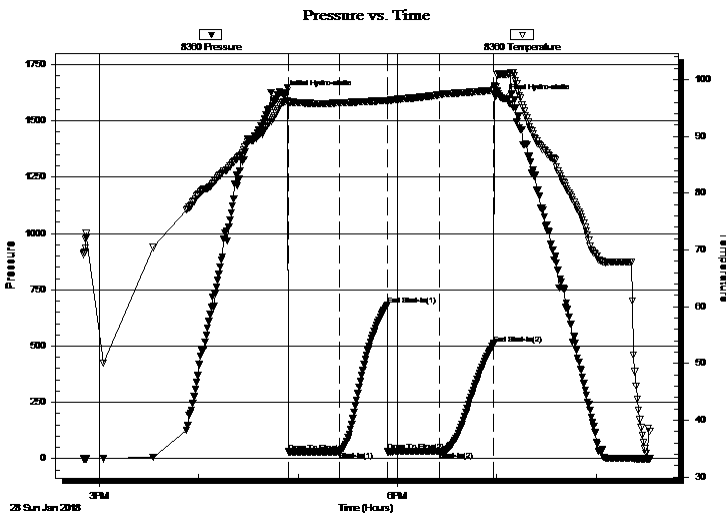
TEST COMMENT: 30-IFP-w k bl thru-out 1" to 1/4" blow

30-ISIP-no bl

30-FFP-no bl

30-FSIP-no bl

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1618.14	96.05	Initial Hydro-static
3	30.07	95.88	Open To Flow (1)
34	30.85	95.92	Shut-In(1)
63	682.94	96.33	End Shut-In(1)
63	30.70	96.06	Open To Flow (2)
95	31.56	97.35	Shut-In(2)
127	510.89	98.11	End Shut-In(2)
132	1600.01	100.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud	0.10

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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## DRILL STEM TEST REPORT

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**15-13s-21w Trego,KS**

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Job Ticket: 63502

**DST#: 1**

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Time Test Ended: 20:32:48

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Reference Elevations: 2194.00 ft (KB)

Total Depth: 3480.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8673 Outside**

Press@RunDepth: psig @ 3452.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.28

End Date:

2018.01.28

Last Calib.:

2018.01.28

Start Time: 14:50:03

End Time:

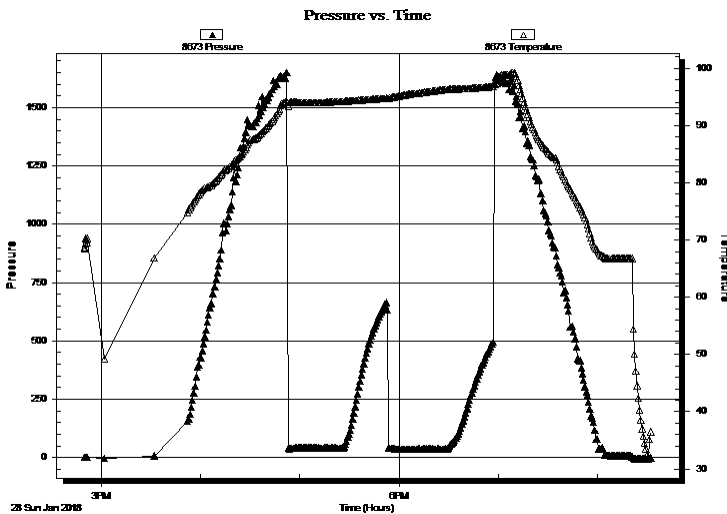
20:31:57

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP-w k bl thru-out 1" to 1/4" blow  
30-ISIP-no bl  
30-FFP-no bl  
30-FSIP-no bl

### PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
20.00	Mud	0.10

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63502

**DST#: 1**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.28 @ 14:50:24

## Tool Information

Drill Pipe:	Length: 3424.00 ft	Diameter: 3.80 inches	Volume: 48.03 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 48.18 bbl</u>	Tool Chased	7.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	3450.00 ft			Final	59000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	30.00 ft				
Tool Length:	51.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3430.00	
Shut In Tool	5.00			3435.00	
Hydraulic tool	5.00			3440.00	
Packer	5.00			3445.00	21.00 Bottom Of Top Packer
Packer	5.00			3450.00	
Stubb	1.00			3451.00	
Perforations	1.00			3452.00	
Recorder	0.00	8360	Inside	3452.00	
Recorder	0.00	8673	Outside	3452.00	
Perforations	25.00			3477.00	
Bullnose	3.00			3480.00	30.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63502

**DST#: 1**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.28 @ 14:50:24

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.11 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
20.00	Mud	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: slid tool approx 7' to bottom

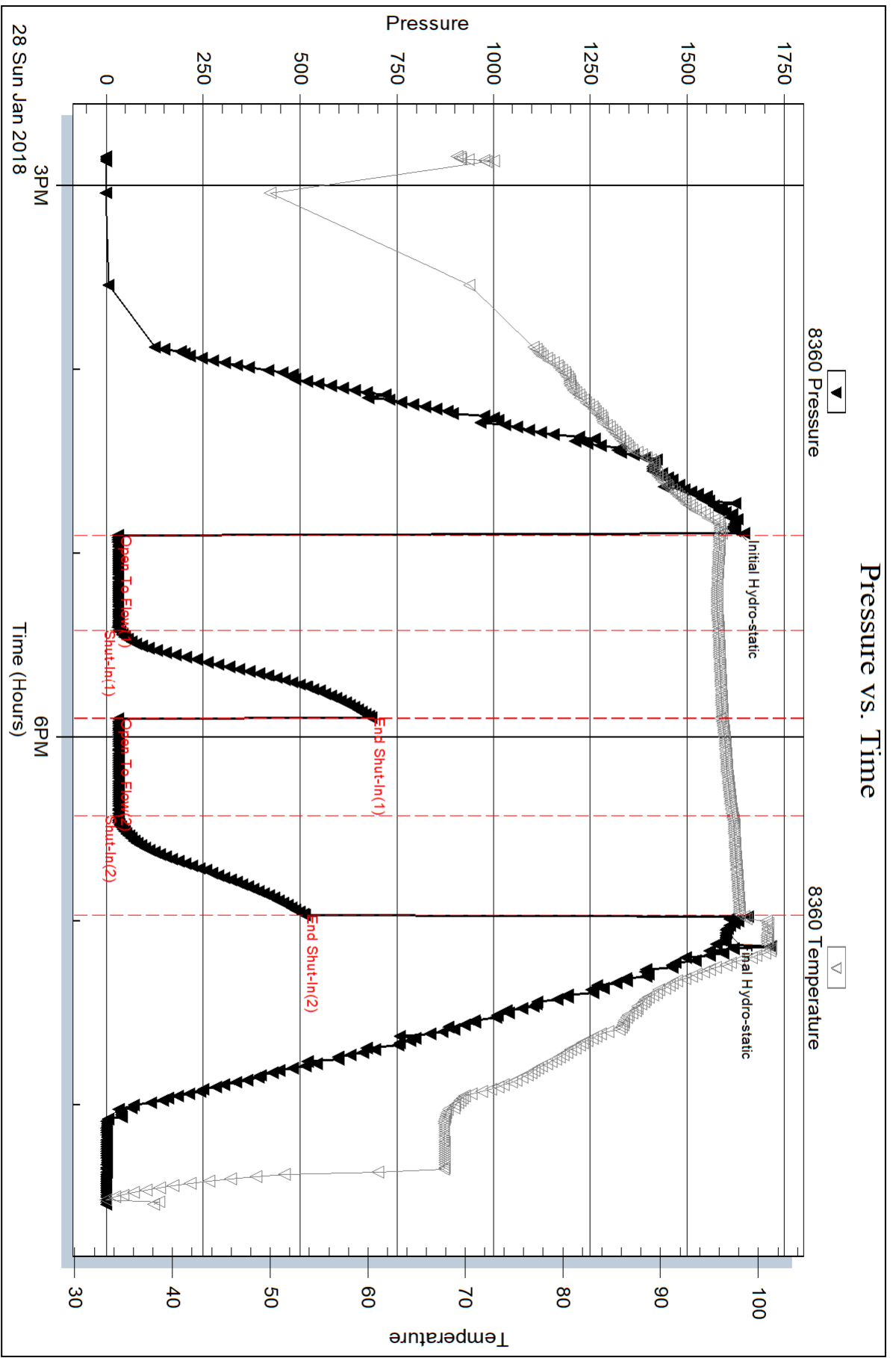
Serial #: 8360

Inside

Dow nting-Nelson Oil Co Inc

Rupp #2-15

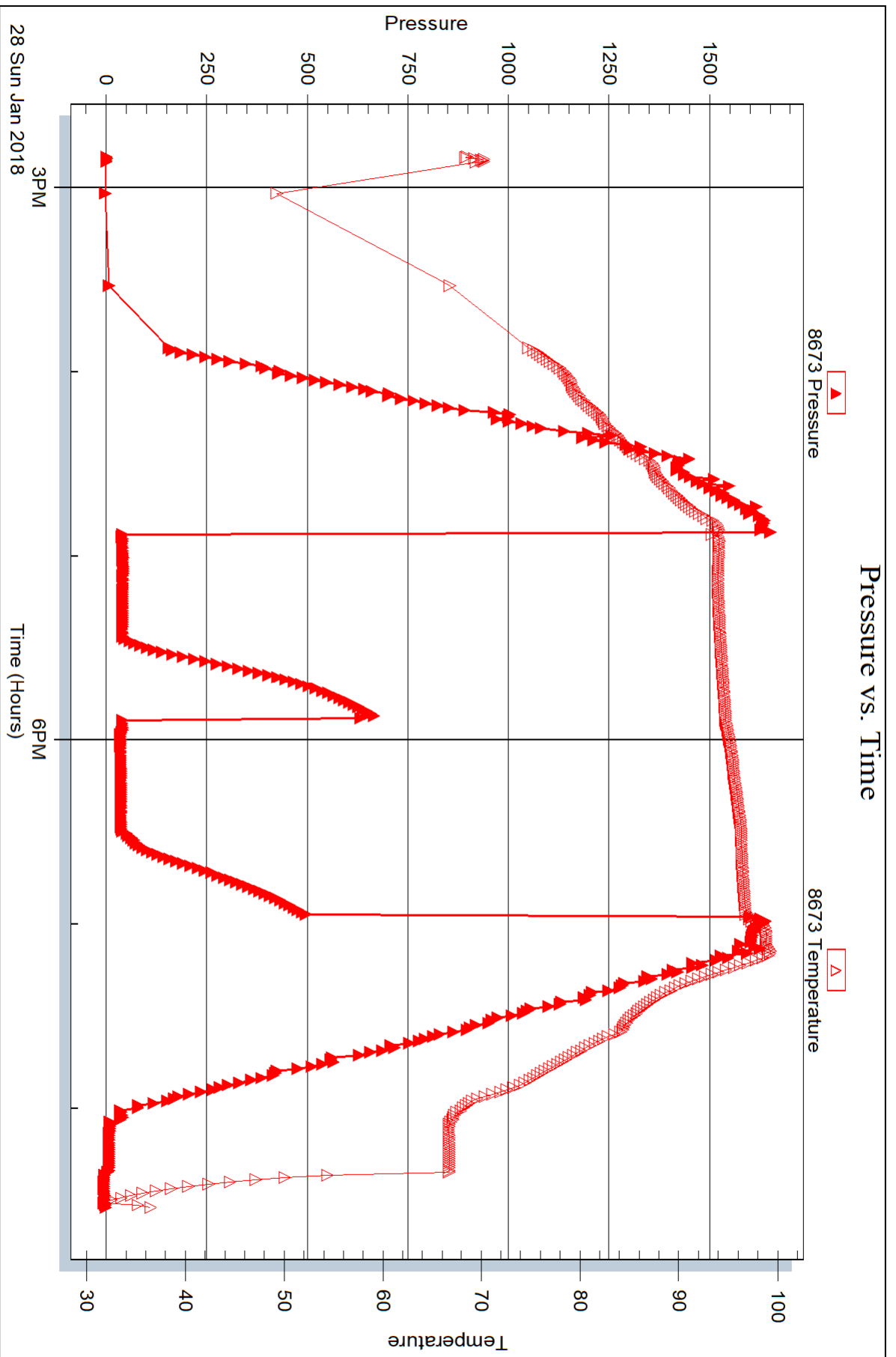
DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 63502

Printed: 2018.02.02 @ 09:06:20





## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019  
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

### **Rupp #2-15**

#### **15-13s-21w Trego,KS**

Start Date: 2018.01.29 @ 09:50:09

End Date: 2018.01.29 @ 15:59:03

Job Ticket #: 63503                      DST #: 2

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.02.02 @ 09:05:56





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63503

**DST#: 2**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.29 @ 09:50:09

## GENERAL INFORMATION:

Formation: **LKC C - E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:19:49

Time Test Ended: 15:59:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

**Interval: 3507.00 ft (KB) To 3563.00 ft (KB) (TVD)**

Reference Elevations: 2194.00 ft (KB)

Total Depth: 3563.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8360**

**Inside**

Press@RunDepth: 82.49 psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.29

End Date:

2018.01.29

Last Calib.:

2018.01.29

Start Time: 09:50:09

End Time:

15:59:03

Time On Btm:

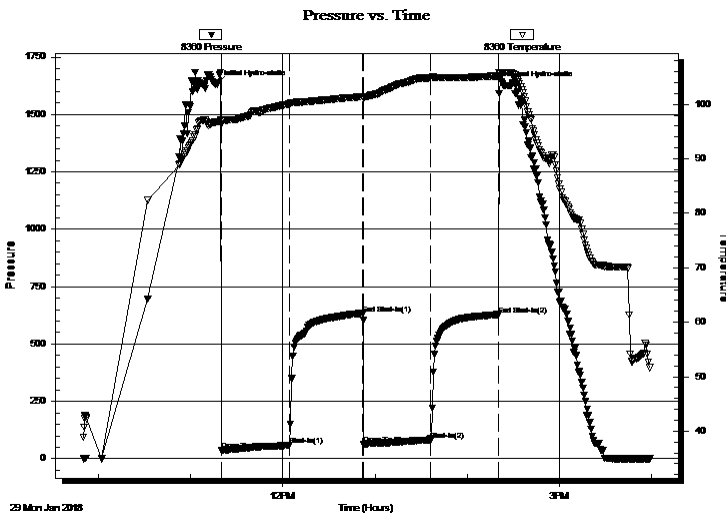
2018.01.29 @ 11:17:19

Time Off Btm:

2018.01.29 @ 14:25:03

**TEST COMMENT:** 45-IFP-w k blow 1/4" to 1 1/2" blow  
45-ISIP-no blow back  
45-FFP-w k blow 1/4" to 1 1/2" blow  
45-FSIP-no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1631.77	96.77	Initial Hydro-static
3	35.55	96.34	Open To Flow (1)
48	59.69	100.15	Shut-In(1)
95	631.90	101.41	End Shut-In(1)
96	61.80	101.27	Open To Flow (2)
139	82.49	104.94	Shut-In(2)
184	627.73	105.23	End Shut-In(2)
188	1625.24	105.77	Final Hydro-static

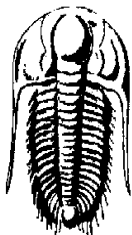
## Recovery

Length (ft)	Description	Volume (bbl)
120.00	WM 45%W55%M	1.41
20.00	Mud w / show of oil	0.28
0.00	40' Gip	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE**  
TESTING, INC.

**DRILL STEM TEST REPORT**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63503

**DST#: 2**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.29 @ 09:50:09

**GENERAL INFORMATION:**

Formation: **LKC C - E**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:19:49

Time Test Ended: 15:59:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

**Interval: 3507.00 ft (KB) To 3563.00 ft (KB) (TVD)**

Reference Elevations: 2194.00 ft (KB)

Total Depth: 3563.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8673**

**Outside**

Press@RunDepth: psig @ 3509.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.29

End Date:

2018.01.29

Last Calib.:

2018.01.29

Start Time: 09:50:34

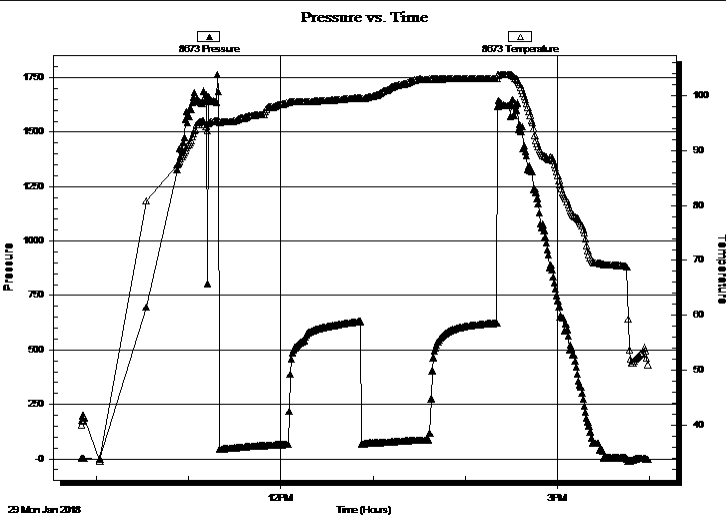
End Time:

15:59:13

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 45-IFP-w k blow 1/4" to 1 1/2" blow  
45-ISIP-no blow back  
45-FFP-w k blow 1/4" to 1 1/2" blow  
45-FSIP-no blow back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
120.00	WM 45%W55%M	1.41
20.00	Mud w / show of oil	0.28
0.00	40' Gip	0.00

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63503

**DST#: 2**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.29 @ 09:50:09

## Tool Information

Drill Pipe:	Length: 3487.00 ft	Diameter: 3.80 inches	Volume: 48.91 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 49.06 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3507.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	56.00 ft				
Tool Length:	77.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3487.00	
Shut In Tool	5.00			3492.00	
Hydraulic tool	5.00			3497.00	
Packer	5.00			3502.00	21.00 Bottom Of Top Packer
Packer	5.00			3507.00	
Stubb	1.00			3508.00	
Perforations	1.00			3509.00	
Recorder	0.00	8360	Inside	3509.00	
Recorder	0.00	8673	Outside	3509.00	
Blank Spacing	33.00			3542.00	
Perforations	18.00			3560.00	
Bullnose	3.00			3563.00	56.00 Bottom Packers & Anchor

**Total Tool Length: 77.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63503

**DST#: 2**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.29 @ 09:50:09

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

53000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.12 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	WM 45%W55%M	1.410
20.00	Mud w / show of oil	0.281
0.00	40' Gip	0.000

Total Length: 140.00 ft      Total Volume: 1.691 bbl

Num Fluid Samples: 0

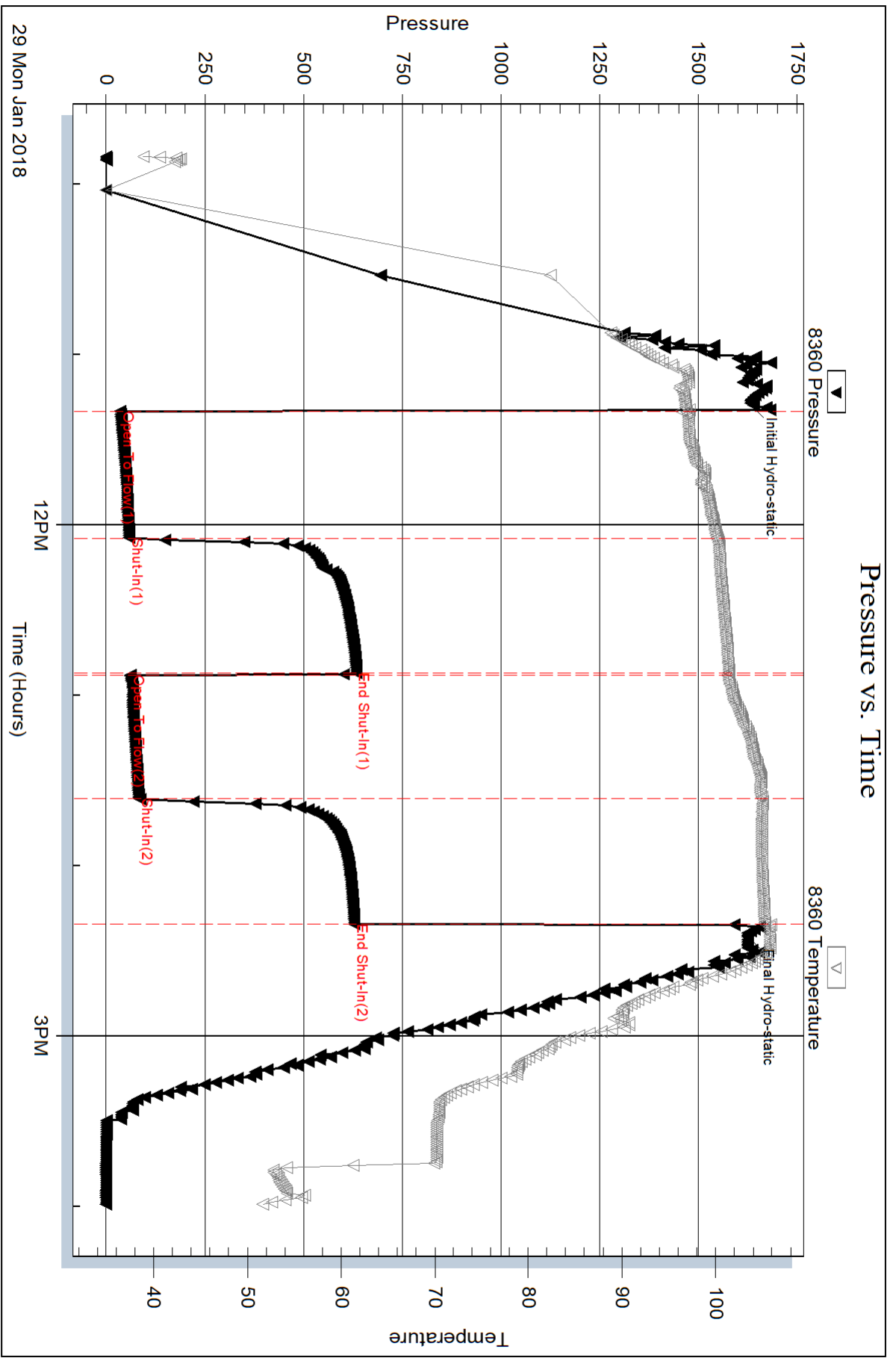
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .15@65F

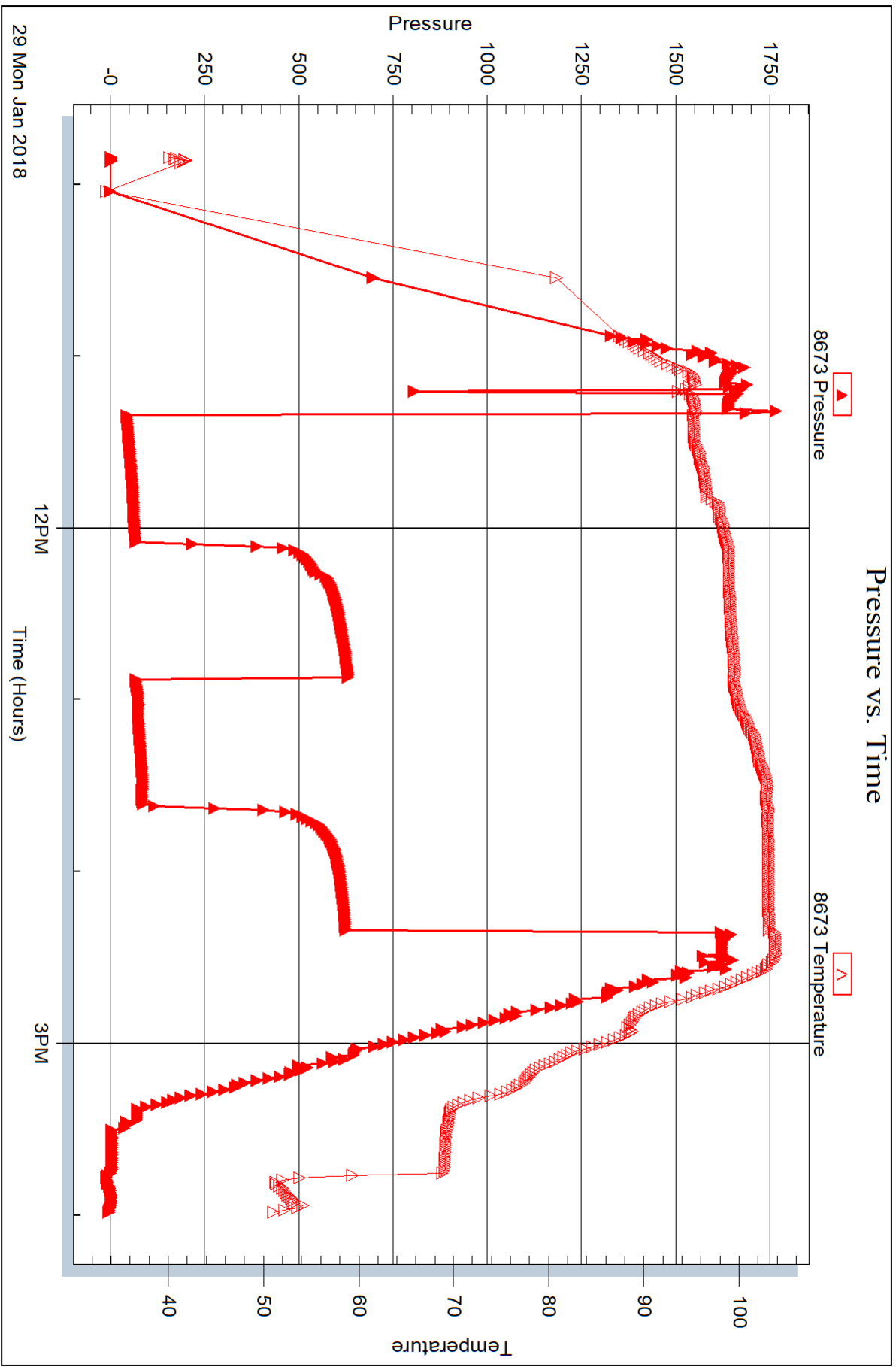


Serial #: 8673

Outside Dow nting-Nelson Oil Co Inc

Rupp #2-15

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019  
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

### **Rupp #2-15**

### **15-13s-21w Trego,KS**

Start Date: 2018.01.30 @ 06:30:57

End Date: 2018.01.30 @ 10:43:06

Job Ticket #: 63504                      DST #: 3

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.02.02 @ 09:05:29



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63504

**DST#: 3**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.30 @ 06:30:57

## GENERAL INFORMATION:

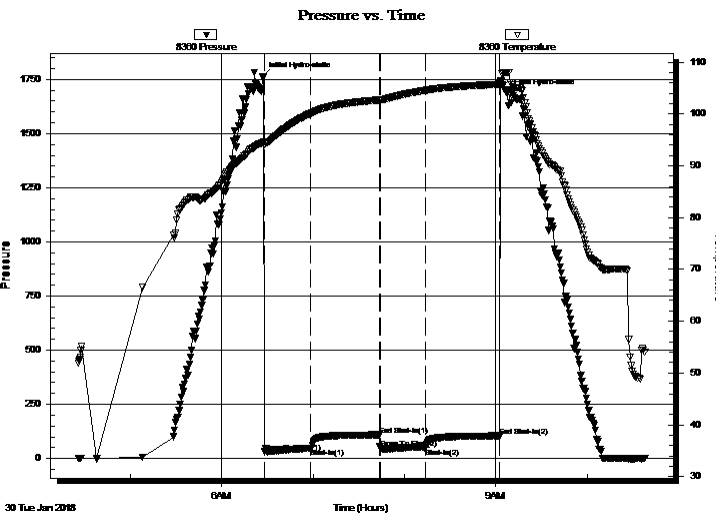
Formation: **LKC H - J**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 08:33:07  
 Time Test Ended: 10:43:06  
 Interval: **3608.00 ft (KB) To 3685.00 ft (KB) (TVD)**  
 Total Depth: 3685.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 77  
 Reference Elevations: 2194.00 ft (KB)  
 2186.00 ft (CF)  
 KB to GR/CF: 8.00 ft

## Serial #: 8360

Inside

Press@RunDepth: 49.06 psig @ 3617.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2018.01.30 End Date: 2018.01.30 Last Calib.: 2018.01.30  
 Start Time: 04:25:57 End Time: 10:38:06 Time On Btm: 2018.01.30 @ 06:26:52  
 Time Off Btm: 2018.01.30 @ 09:07:36

TEST COMMENT: 30-IFP-BOB in 2 min  
 45-ISIP-surface blow back  
 30-FFP-BOB in 30 sec, GTSin 28 min  
 45-FSIP-1/2 " blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1760.71	94.47	Initial Hydro-static
2	30.90	94.19	Open To Flow (1)
32	47.63	100.08	Shut-In(1)
77	109.12	102.73	End Shut-In(1)
78	48.10	102.73	Open To Flow (2)
108	49.06	104.58	Shut-In(2)
156	104.36	105.76	End Shut-In(2)
161	1686.43	108.03	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	O&GCM 5%G10%O85%M	0.57
20.00	SOCM 1%O99%M	0.28
0.00	GTS , no gauge	0.00

\* Recovery from multiple tests

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





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TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63504

**DST#: 3**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.30 @ 06:30:57

## GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:33:07

Time Test Ended: 10:43:06

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

**Interval: 3608.00 ft (KB) To 3685.00 ft (KB) (TVD)**

Reference Elevations: 2194.00 ft (KB)

Total Depth: 3685.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8673**

**Outside**

Press@RunDepth: psig @ 3617.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.30

End Date:

2018.01.30

Last Calib.:

1899.12.30

Start Time: 04:25:38

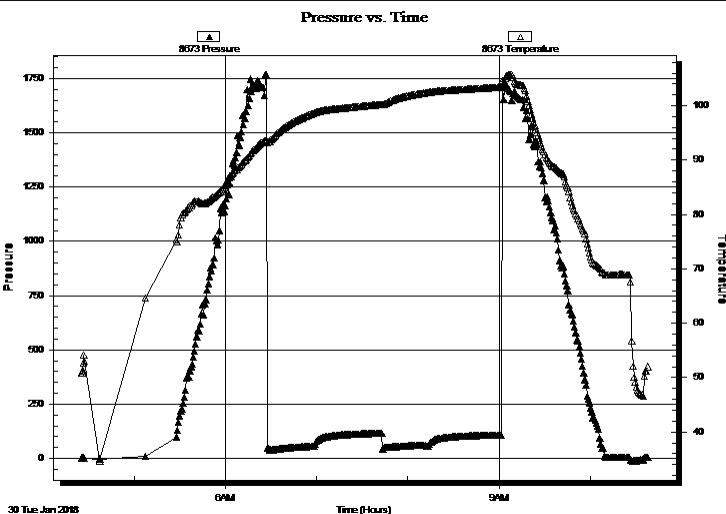
End Time:

10:37:47

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 30-IFP-BOB in 2 min  
45-ISIP-surface blow back  
30-FFP-BOB in 30 sec, GTSin 28 min  
45-FSIP-1/2 " blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	O&GCM 5% G10% O85%M	0.57
20.00	SOCM 1% O99%M	0.28
0.00	GTS, no gauge	0.00

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63504

**DST#: 3**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.30 @ 06:30:57

## Tool Information

Drill Pipe:	Length: 3582.00 ft	Diameter: 3.80 inches	Volume: 50.25 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	85000.00 lb
			<u>Total Volume: 50.40 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3608.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	77.00 ft				
Tool Length:	98.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3588.00	
Shut In Tool	5.00			3593.00	
Hydraulic tool	5.00			3598.00	
Packer	5.00			3603.00	21.00 Bottom Of Top Packer
Packer	5.00			3608.00	
Stubb	1.00			3609.00	
Perforations	8.00			3617.00	
Recorder	0.00	8360	Inside	3617.00	
Recorder	0.00	8673	Outside	3617.00	
Blank Spacing	65.00			3682.00	
Bullnose	3.00			3685.00	77.00 Bottom Packers & Anchor

**Total Tool Length: 98.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63504

**DST#: 3**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.30 @ 06:30:57

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 54.00 sec/qt

Cushion Volume: bbl

Water Loss: 7.12 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 4500.00 ppm

Filter Cake: 2.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
60.00	O&GCM 5%G10%O85%M	0.568
20.00	SOCM 1%O99%M	0.281
0.00	GTS , no gauge	0.000

Total Length: 80.00 ft Total Volume: 0.849 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

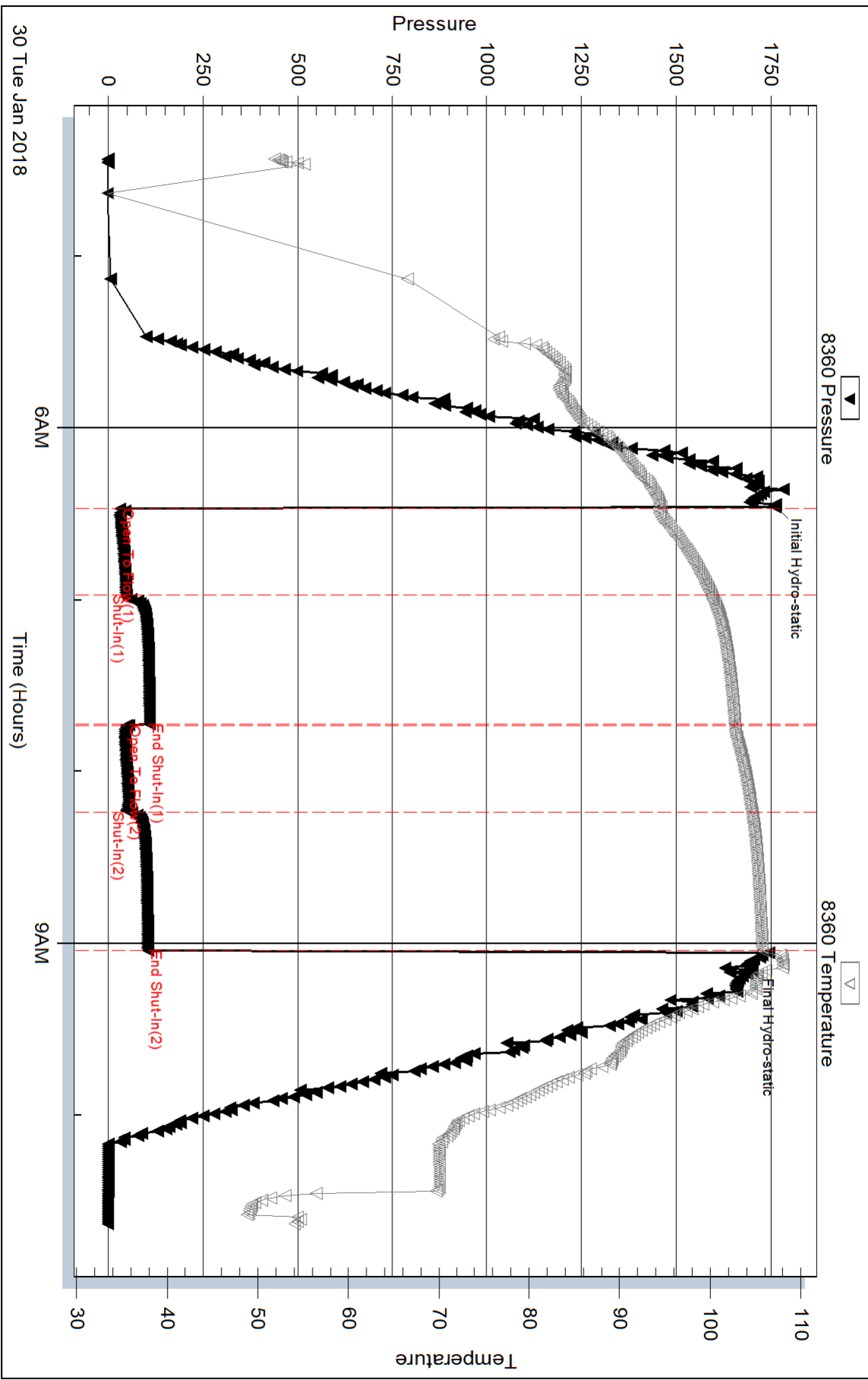
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

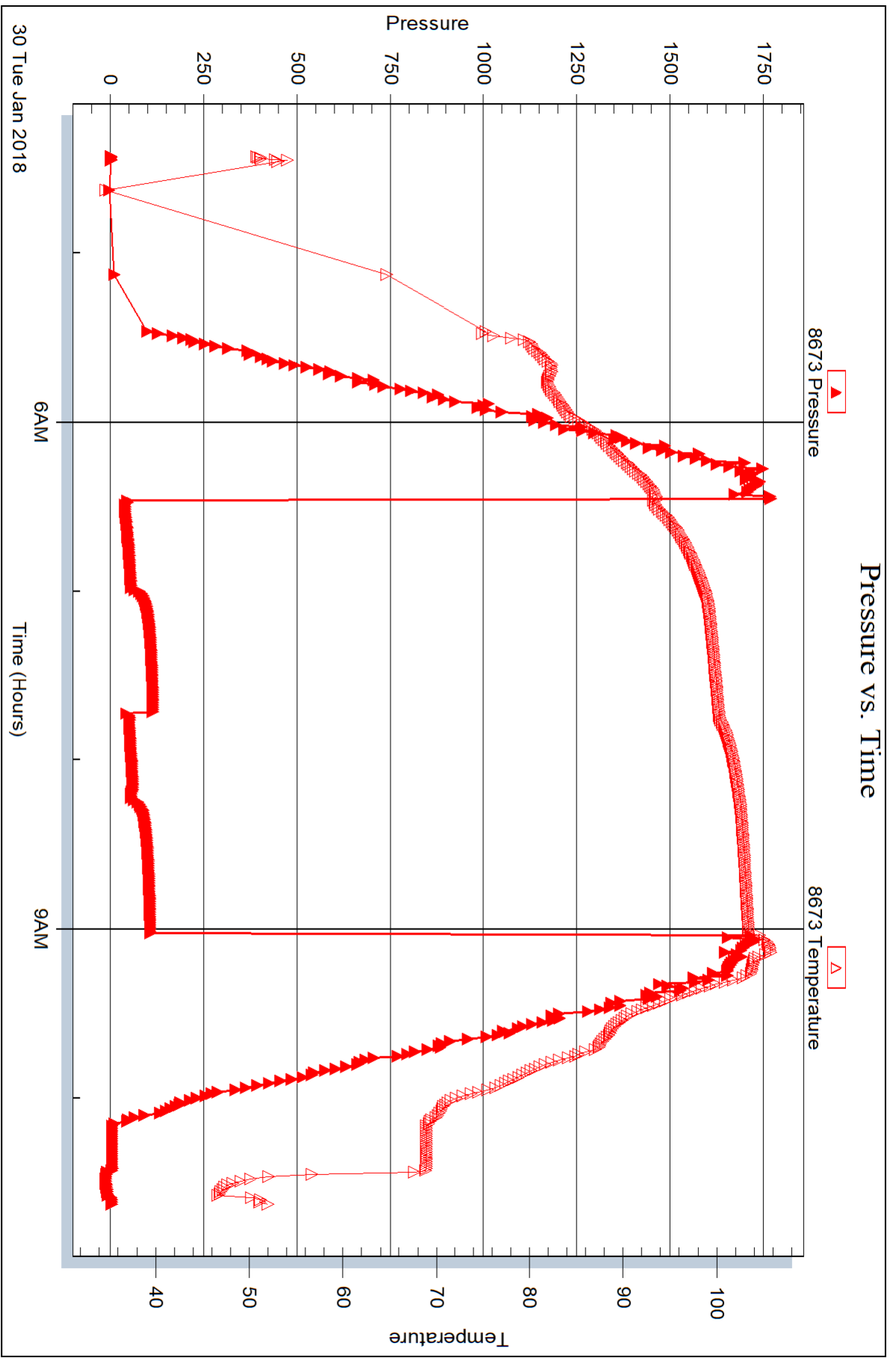


Serial #: 8673

Outside Dow nng-Nelson Oil Co Inc

Rupp #2-15

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 63504

Printed: 2018.02.02 @ 09:05:31



## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019  
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

### **Rupp #2-15**

### **15-13s-21w Trego,KS**

Start Date: 2018.01.31 @ 01:25:44

End Date: 2018.01.31 @ 06:44:38

Job Ticket #: 63505                      DST #: 4

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.02.02 @ 09:00:06



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63505

**DST#: 4**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 01:25:44

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:12:24

Time Test Ended: 06:44:38

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

**Interval: 3813.00 ft (KB) To 3846.00 ft (KB) (TVD)**

Reference Elevations: 2194.00 ft (KB)

Total Depth: 3846.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8360**

**Inside**

Press@RunDepth: 16.62 psig @ 3818.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.31

End Date:

2018.01.31

Last Calib.:

2018.01.31

Start Time: 01:25:44

End Time:

06:44:38

Time On Btm:

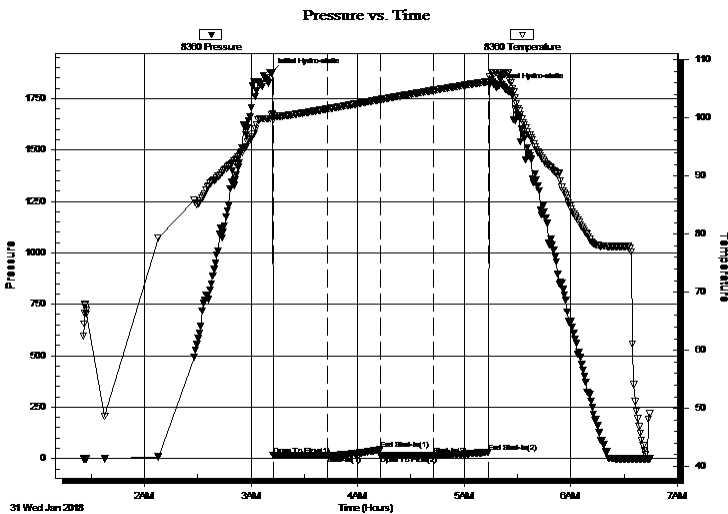
2018.01.31 @ 03:11:24

Time Off Btm:

2018.01.31 @ 05:18:09

**TEST COMMENT:** 30-IFP-w k bl 1/8" to surface bl  
30-ISIP-no blow  
30-FFP-no blow  
30-FSIP-no blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1873.57	100.47	Initial Hydro-static
1	14.48	99.74	Open To Flow (1)
32	16.08	101.54	Shut-In(1)
62	43.65	103.16	End Shut-In(1)
62	15.25	103.15	Open To Flow (2)
92	16.62	104.76	Shut-In(2)
123	31.53	106.26	End Shut-In(2)
127	1803.49	107.82	Final Hydro-static

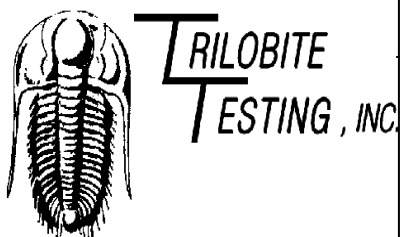
## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

15-13s-21w Trego,KS

PO Box 1019  
Hays KS 67601

Rupp #2-15

Job Ticket: 63505

DST#: 4

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 01:25:44

## GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:12:24

Time Test Ended: 06:44:38

Interval: **3813.00 ft (KB) To 3846.00 ft (KB) (TVD)**

Total Depth: 3846.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

Reference Elevations: 2194.00 ft (KB)

2186.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8673

Outside

Press@RunDepth: psig @ 3818.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.31

End Date: 2018.01.31

Last Calib.: 2018.01.31

Start Time: 01:25:15

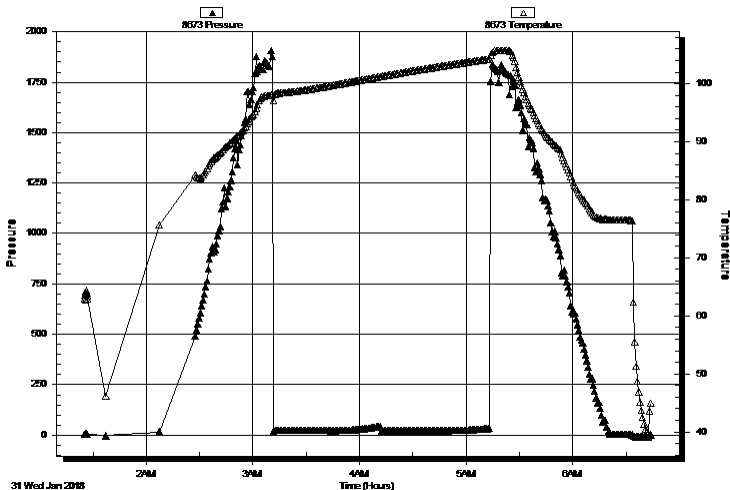
End Time: 06:43:54

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IFP-w k bl 1/8" to surface bl  
30-ISIP-no blow  
30-FFP-no blow  
30-FSIP-no blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63505

**DST#: 4**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 01:25:44

## Tool Information

Drill Pipe:	Length: 3773.00 ft	Diameter: 3.80 inches	Volume: 52.93 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 53.08 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	60000.00 lb
Depth to Top Packer:	3813.00 ft			Final	60000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	33.00 ft				
Tool Length:	54.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3793.00	
Shut In Tool	5.00			3798.00	
Hydraulic tool	5.00			3803.00	
Packer	5.00			3808.00	21.00 Bottom Of Top Packer
Packer	5.00			3813.00	
Stubb	1.00			3814.00	
Perforations	4.00			3818.00	
Recorder	0.00	8360	Inside	3818.00	
Recorder	0.00	8673	Outside	3818.00	
Perforations	25.00			3843.00	
Bullnose	3.00			3846.00	33.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63505

**DST#: 4**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 01:25:44

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Mud	0.005

Total Length: 1.00 ft      Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

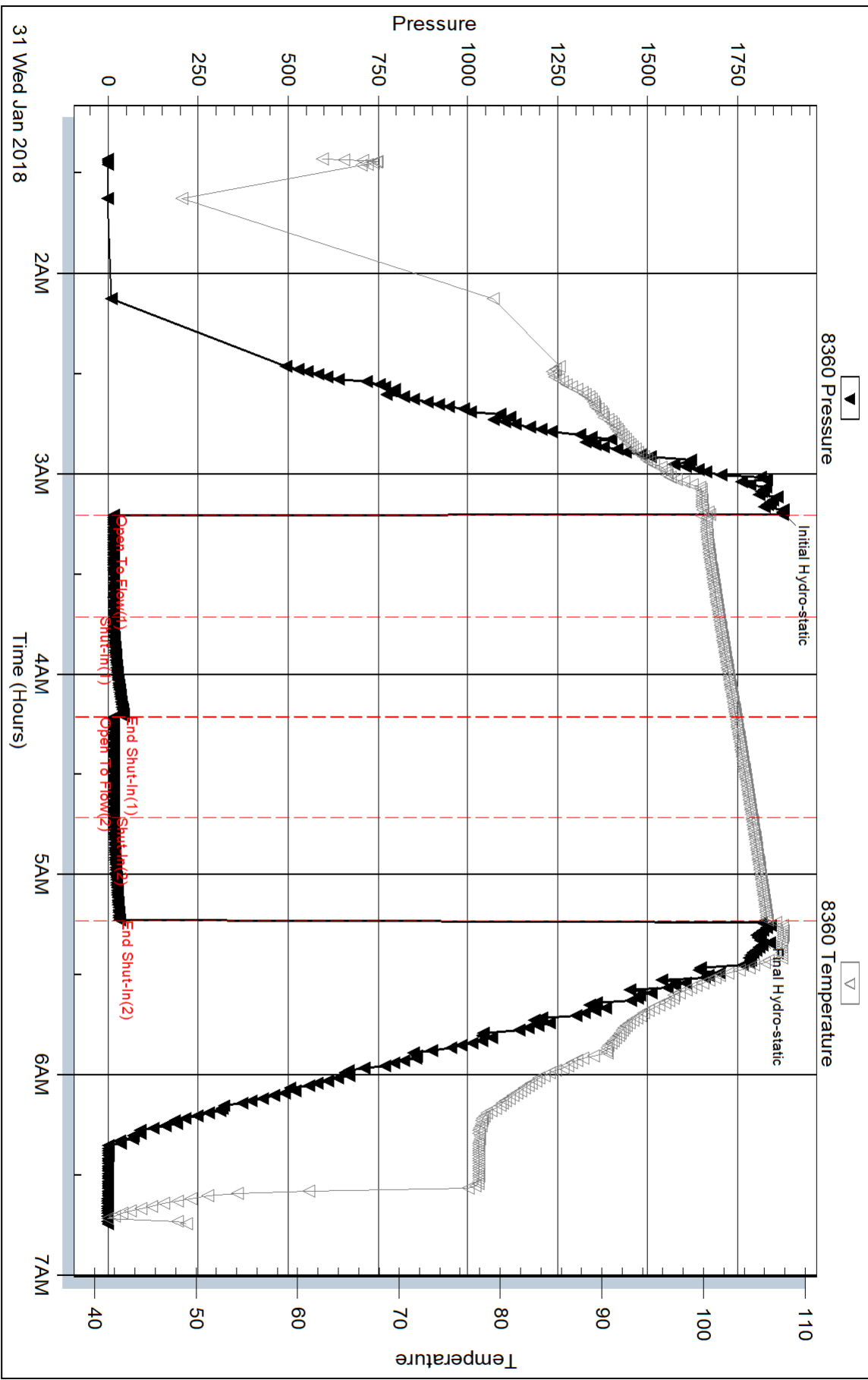
Serial #:

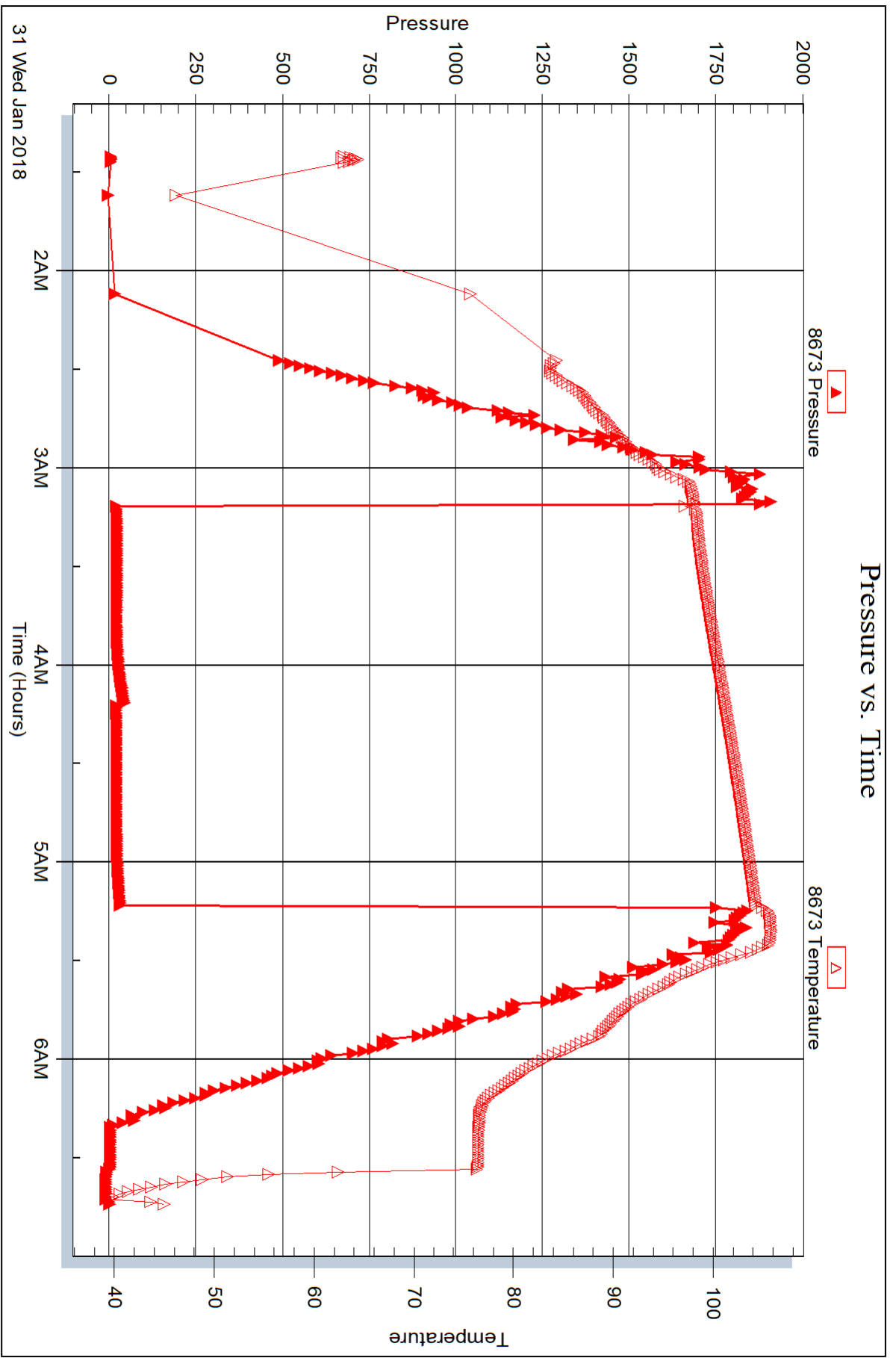
Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co Inc**

PO Box 1019  
Hays KS 67601

ATTN: Ron Nelson, Marc Dow

### **Rupp #2-15**

### **15-13s-21w Trego,KS**

Start Date: 2018.01.31 @ 14:50:52

End Date: 2018.01.31 @ 21:55:16

Job Ticket #: 63506                      DST #: 5

Trilobite Testing, Inc  
1515 Commerce Parkway Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.02.02 @ 08:53:02



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63506

**DST#: 5**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 14:50:52

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:43:32

Time Test Ended: 21:55:16

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

**Interval: 3840.00 ft (KB) To 3895.00 ft (KB) (TVD)**

Reference Elevations: 2194.00 ft (KB)

Total Depth: 3480.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8360**

**Inside**

Press@RunDepth: 158.07 psig @ 3844.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.31

End Date:

2018.01.31

Last Calib.:

2018.01.31

Start Time:

14:50:52

End Time:

21:55:16

Time On Btm:

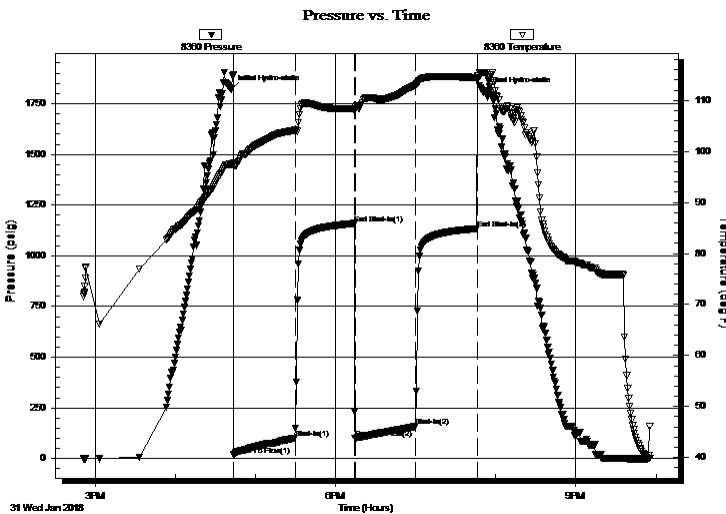
2018.01.31 @ 16:41:32

Time Off Btm:

2018.01.31 @ 19:50:31

**TEST COMMENT:** 45-IFP-w k to BOB in 30 min  
45-ISIP-no blow back  
45-FFP-w k to BOB in 40 min  
45-FSIP-no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1820.92	97.50	Initial Hydro-static
2	19.30	97.12	Open To Flow (1)
48	99.99	104.16	Shut-In(1)
93	1158.89	108.41	End Shut-In(1)
93	101.50	108.36	Open To Flow (2)
139	158.07	113.00	Shut-In(2)
185	1134.06	114.55	End Shut-In(2)
189	1806.74	115.47	Final Hydro-static

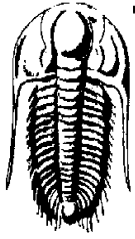
## Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCWM 10%O40%W50%M	0.60
62.00	O&GCM 10%G25%)65%M	0.87
80.00	MGO 10%G30%M60%O	1.12
140.00	CO	1.96
0.00	205' GIP	0.00

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63506

**DST#: 5**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 14:50:52

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:43:32

Time Test Ended: 21:55:16

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 77

**Interval: 3840.00 ft (KB) To 3895.00 ft (KB) (TVD)**

Reference Elevations: 2194.00 ft (KB)

Total Depth: 3480.00 ft (KB) (TVD)

2186.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8673 Outside**

Press@RunDepth: psig @ 3844.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.31 End Date: 2018.01.31

Last Calib.: 2018.01.31

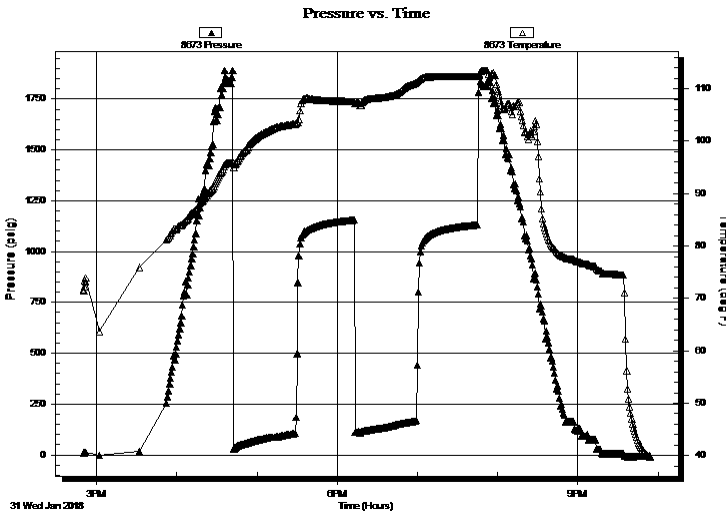
Start Time: 14:50:10 End Time: 21:54:19

Time On Btm:

Time Off Btm:

TEST COMMENT: 45-IFP-w k to BOB in 30 min  
45-ISIP-no blow back  
45-FFP-w k to BOB in 40 min  
45-FSIP-no blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	OCWM 10%O40%W50%M	0.60
62.00	O&GCM 10%G25%)65%M	0.87
80.00	MGO 10%G30%M60%O	1.12
140.00	CO	1.96
0.00	205' GIP	0.00

\* Recovery from multiple tests

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63506

**DST#: 5**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 14:50:52

## Tool Information

Drill Pipe:	Length: 3804.00 ft	Diameter: 3.80 inches	Volume: 53.36 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 53.51 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 61000.00 lb
Depth to Top Packer:	3840.00 ft			Final 63000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	55.00 ft			
Tool Length:	76.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3820.00	
Shut In Tool	5.00			3825.00	
Hydraulic tool	5.00			3830.00	
Packer	5.00			3835.00	21.00 Bottom Of Top Packer
Packer	5.00			3840.00	
Stubb	1.00			3841.00	
Perforations	3.00			3844.00	
Recorder	0.00	8360	Inside	3844.00	
Recorder	0.00	8673	Outside	3844.00	
Blank Spacing	33.00			3877.00	
Perforations	15.00			3892.00	
Bullnose	3.00			3895.00	55.00 Bottom Packers & Anchor

**Total Tool Length: 76.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co Inc

**15-13s-21w Trego,KS**

PO Box 1019  
Hays KS 67601

**Rupp #2-15**

Job Ticket: 63506

**DST#: 5**

ATTN: Ron Nelson, Marc Dow

Test Start: 2018.01.31 @ 14:50:52

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

38000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.12 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	OCWM 10%O40%W50%M	0.596
62.00	O&GCM 10%G25%)65%M	0.870
80.00	MGO 10%G30%M60%O	1.122
140.00	CO	1.964
0.00	205' GIP	0.000

Total Length: 344.00 ft

Total Volume: 4.552 bbl

Num Fluid Samples: 0

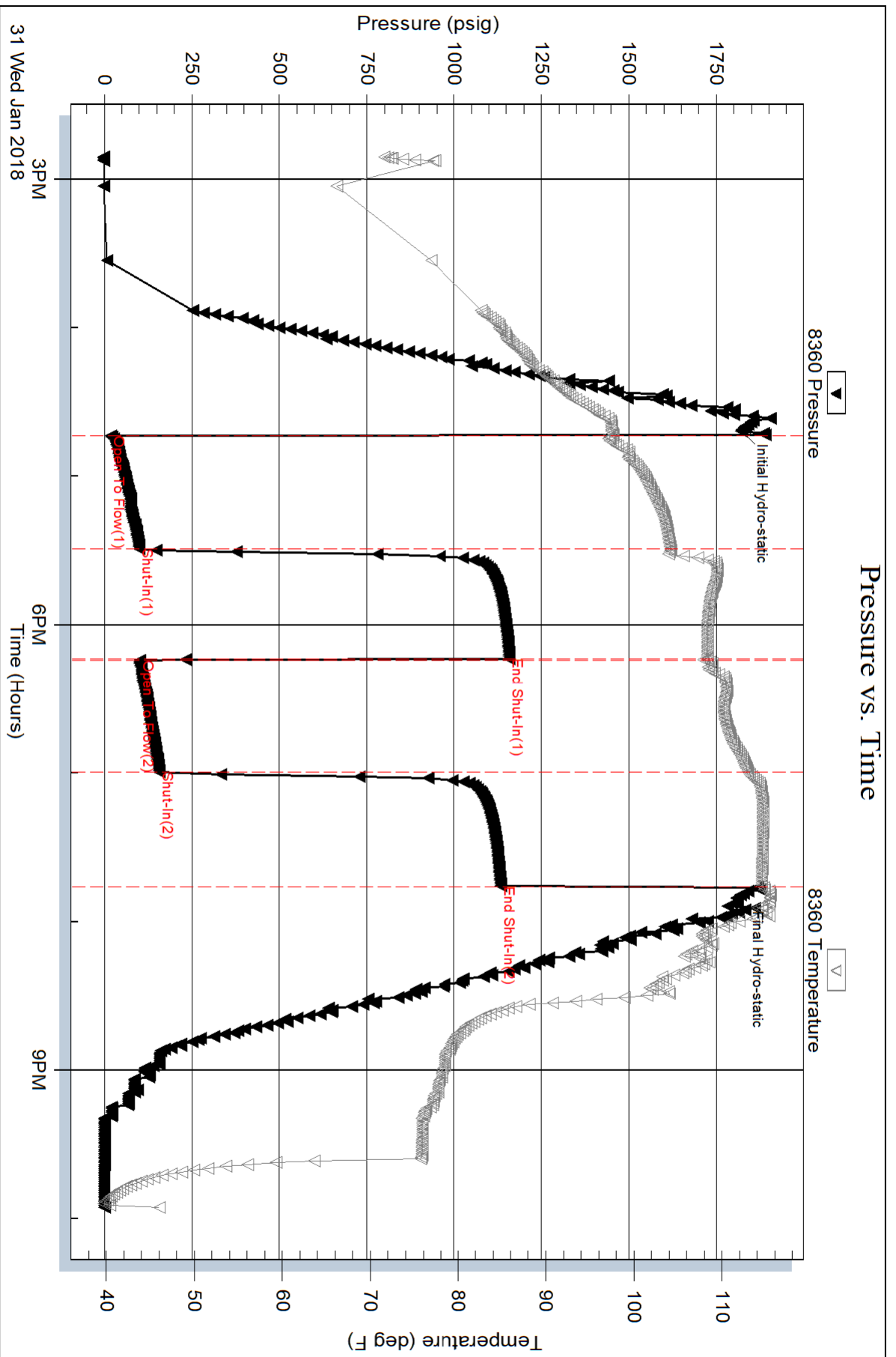
Num Gas Bombs: 0

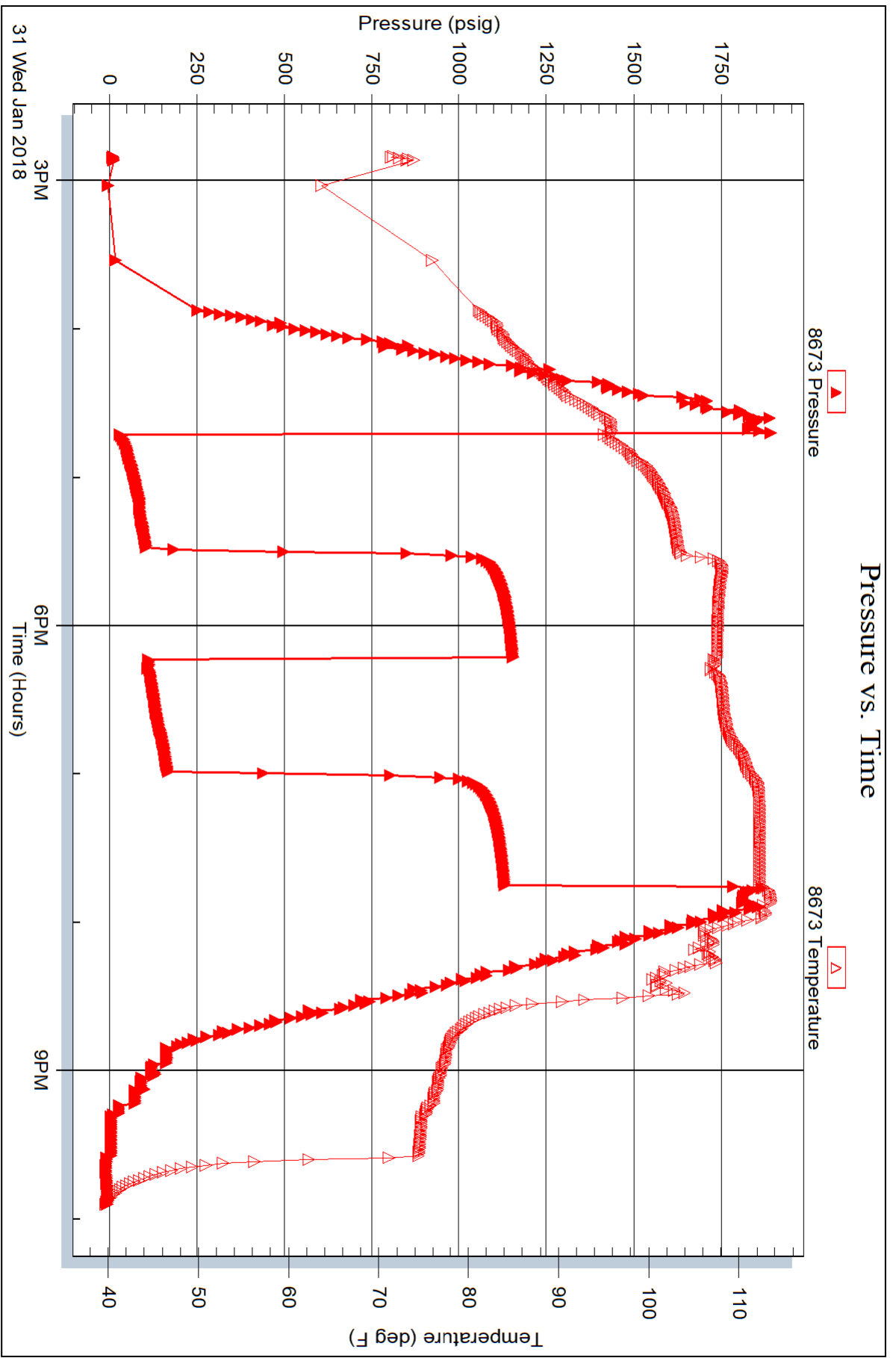
Serial #:

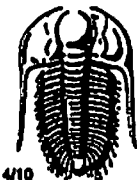
Laboratory Name:

Laboratory Location:

Recovery Comments: RW .2@65F







# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63502

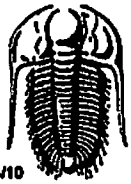
Well Name & No. Rupp #2-15 Test No. 1 Date 1-28-18  
 Company Downing-Nelson O, L Co Inc Elevation 2194 KB 2186 GL  
 Address PO Box 1019 Hays, Ks 67601  
 Co. Rep / Geo. MARK Downing Rig Discovery rig 4  
 Location: Sec. 15 Twp 13<sup>s</sup> Rge. 21<sup>w</sup> Co. Trego State K

Interval Tested 3450-3480 Zone Tested TORONTO  
 Anchor Length 30 Drill Pipe Run 3424 Mud Wt. 8.8  
 Top Packer Depth 3445 Drill Collars Run 30 Vis 51  
 Bottom Packer Depth 3450 Wt. Pipe Run - WL 7.2  
 Total Depth 3480 Chlorides 4000 ppm System LCM 2#  
 Blow Description TFP-Weak Blow 1" To 1/4" Blow  
ISTP-NO Blow  
FFP-NO Blow  
FSTP-NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 20 BHT 98 Gravity - API RW - @ - ° F Chlorides - ppm  
 (A) Initial Hydrostatic 1618  Test 1050 T-On Location 1350  
 (B) First Initial Flow 30  Jars \_\_\_\_\_ T-Started 1450  
 (C) First Final Flow 30  Safety Joint \_\_\_\_\_ T-Open 1655  
 (D) Initial Shut-In 682  Circ Sub \_\_\_\_\_ T-Pulled 1855  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 2032  
 (F) Second Final Flow 31  Mileage 48RT <sup>36</sup> Comments Slid Tool approx 7' To Bottom  
 (G) Final Shut-In 510  Sampler \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 (H) Final Hydrostatic 1600  Straddle \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 30  Extra Packer \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 30  Extra Recorder \_\_\_\_\_ Total 1086  
 Final Flow 30  Day Standby \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 30  Accessibility \_\_\_\_\_  
 Sub Total 1086

Approved By \_\_\_\_\_ Our Representative Ray Schunger THANK YOU  
 Triobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63503

Well Name & No. Rupp #2-15 Test No. 2 Date 1-29-18  
 Company Downing-Nelson Oil Co Inc Elevation 2194 KB 2186 GL  
 Address PO Box 1019 Hays Ks 67601  
 Co. Rep / Geo. MARC Downing Rig Discoveryrig 4  
 Location: Sec. 15 Twp 13<sup>S</sup> Rge. 21<sup>W</sup> Co. Trego State Ks

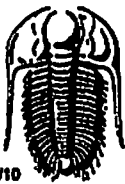
Interval Tested 3507-3563 Zone Tested LKC C-E  
 Anchor Length 56 Drill Pipe Run 3487 Mud Wt. 9  
 Top Packer Depth 3502 Drill Collars Run 30 Vis 48  
 Bottom Packer Depth 3507 Wt. Pipe Run — WL 7.2  
 Total Depth 3563 Chlorides 4500 ppm System LCM 2<sup>#</sup>  
 Blow Description IFP-WEAK Blow 1/4" To 1/2" Blow  
ISIP-NO Blow  
FFP-WEAK Blow 1/4" To 1/2" Blow  
FSIP-NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>GIP</u>				
<u>20</u>	<u>Mud w/slow flow</u>				
<u>120</u>	<u>WM</u>			<u>45</u>	<u>55</u>
Rec Total	<u>140</u>				

BHT 10.5 Gravity — API RW .15 @ 65 °F Chlorides 53000 ppm

(A) Initial Hydrostatic 1631  Test 1050 T-On Location 0930  
 (B) First Initial Flow 35  Jars \_\_\_\_\_ T-Started 0950  
 (C) First Final Flow 59  Safety Joint \_\_\_\_\_ T-Open 1110  
 (D) Initial Shut-In 631  Circ Sub \_\_\_\_\_ T-Pulled 1410  
 (E) Second Initial Flow 61  Hourly Standby \_\_\_\_\_ T-Out 15  
 (F) Second Final Flow 82  Mileage 48 RT <sup>36</sup> Comments \_\_\_\_\_  
 (G) Final Shut-In 627  Sampler \_\_\_\_\_ Slid Tool approx 8'  
 (H) Final Hydrostatic 1625  Straddle \_\_\_\_\_ To Bottom  
 Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Initial Shut-In 45  Day Standby \_\_\_\_\_ Total 1086  
 Final Flow 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 45 Sub Total 1086

Approved By \_\_\_\_\_ Our Representative Ray Schwager *thank you*  
 Trilobite Testing Inc. shall not be liable for damaged or any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRIOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63504

Well Name & No. Rupp #2-15 Test No. 3 Date 1-30-18  
 Company Downing-Nelson Oil Co. Inc Elevation 2194 KB 2186 GL  
 Address PO Box 1019 Hays, Ks 67601  
 Co. Rep / Geo. MARC Downing Rig Discovery rig 4  
 Location: Sec. 15 Twp 13<sup>s</sup> Rge. 21<sup>w</sup> Co. Trego State Ks

Interval Tested 3608-3685 Zone Tested LKC H-J  
 Anchor Length 77 Drill Pipe Run 3582 Mud Wt. 9  
 Top Packer Depth 3603 Drill Collars Run 30 Vis 54  
 Bottom Packer Depth 3608 Wt. Pipe Run - WL 7.2  
 Total Depth 3685 Chlorides 4500 ppm System LCM 2<sup>#</sup>

Blow Description IFP - BOBIN 2min  
ISTP - SURFACE BLOW BACK  
FFP - BOBIN 30sec. GTS IN 28min, NO GAUGE  
FSIP - 1/2" Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>-</u>	<u>GTS</u>				
<u>20</u>	<u>50CM</u>				
<u>60</u>	<u>OCM</u>	<u>5</u>	<u>10</u>		<u>85</u>
<u>-</u>	<u>-</u>				
<u>-</u>	<u>-</u>				

Rec Total 80 BHT 105 Gravity - API RW - @ - F Chlorides - ppm  
 Test 1050 T-On Location 0350  
 Jars \_\_\_\_\_ T-Started 0425  
 Safety Joint \_\_\_\_\_ T-Open 0630  
 Circ Sub \_\_\_\_\_ T-Pulled 0900  
 Hourly Standby \_\_\_\_\_ T-Out 1038  
 Mileage 36 Comments \_\_\_\_\_  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1086 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 45

Approved By \_\_\_\_\_ Our Representative Ray Schwager Thank you  
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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63505

Well Name & No. Rupp # 2-15 Test No. 4 Date 1-31-18  
 Company Downing-Netton Oil Co Inc Elevation 2194 KB 2186 GL  
 Address PO Box 1019 Hays Ko 67601  
 Co. Rep / Geo. MARC DOWNING Rig Discovery rig 4  
 Location: Sec. 15 Twp 13<sup>s</sup> Rge. 21<sup>w</sup> Co. Trego State Ks

Interval Tested 3813-3846 Zone Tested MARMATON  
 Anchor Length 33 Drill Pipe Run 3773 Mud Wt. 9  
 Top Packer Depth 3808 Drill Collars Run 30 Vis 58  
 Bottom Packer Depth 3813 Wt. Pipe Run — WL 7.6  
 Total Depth 3846 Chlorides 6000 ppm System LCM 2<sup>#</sup>

Blow Description IFP - WEAK BLOW 1/8" TO SURFACE BLOW  
ISIP - NO BLOW  
FFP - NO BLOW  
FSIP - NO BLOW

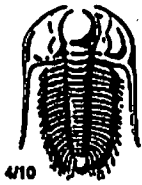
Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Mud</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1 BHT 106 Gravity — API RW — @ — °F Chlorides — ppm  
 (A) Initial Hydrostatic 1873  Test 1050 T-On Location 0105  
 (B) First Initial Flow 14  Jars — T-Started 0126  
 (C) First Final Flow 16  Safety Joint — T-Open 0310  
 (D) Initial Shut-In 43  Circ Sub — T-Pulled 0510  
 (E) Second Initial Flow 15  Hourly Standby — T-Out 0644  
 (F) Second Final Flow 16  Mileage 36 Comments —  
 (G) Final Shut-In 31  Sampler —  
 (H) Final Hydrostatic 1803  Straddle —  
 Ruined Shale Packer —  
 Ruined Packer —

Initial Open 30  Extra Packer —  Extra Copies —  
 Initial Shut-In 30  Extra Recorder — Sub Total 0  
 Final Flow 30  Day Standby — Total 1086  
 Final Shut-In 30  Accessibility — MP/DST Disc't —  
 Sub Total 1086

Approved By \_\_\_\_\_ Our Representative Ray Schwager Thank you

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 63506

Well Name & No. Rupp #2-15 Test No. 5 Date 1-31-18  
 Company Downing-Nelson Oil Co Inc Elevation 2194 KB 2186 GL  
 Address PO Box 1019 Hays, Ks 67601  
 Co. Rep / Geo. MARC Downing Rig DISCOVERY rig 4  
 Location: Sec. 15 Twp 13<sup>s</sup> Rge. 21<sup>w</sup> Co. Trego State Ks

Interval Tested 3840-3895 Zone Tested Arbuckle  
 Anchor Length 55 Drill Pipe Run 3804 Mud Wt. 9.1  
 Top Packer Depth 3835 Drill Collars Run 30 Vis 54  
 Bottom Packer Depth 3840 Wt. Pipe Run - WL 7.2  
 Total Depth 3895 Chlorides 6000 ppm System LCM 2#  
 Blow Description IFP - WEAK TO BOB IN 30 MIN  
ISIP - NO BLOW BACK  
FFP - WEAK TO BOB IN 40 MIN  
FSIP - NO BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>205</u>	<u>GTP</u>				
<u>140</u>	<u>CO</u>				
<u>80</u>	<u>MGO</u>	<u>10</u>	<u>60</u>	<u>30</u>	<u>30</u>
<u>62</u>	<u>O+GCM</u>	<u>10</u>	<u>25</u>	<u>65</u>	<u>65</u>
<u>62</u>	<u>OCWM</u>	<u>10</u>	<u>40</u>	<u>50</u>	<u>50</u>

Rec Total 344 BHT 114 Gravity 39 API RW 2 @ 65 °F Chlorides 38000 ppm  
 (A) Initial Hydrostatic 1820  Test 1050 T-On Location 1435  
 (B) First Initial Flow 19  Jars \_\_\_\_\_ T-Started 1450  
 (C) First Final Flow 99  Safety Joint \_\_\_\_\_ T-Open 1640  
 (D) Initial Shut-In 1158  Circ Sub \_\_\_\_\_ T-Pulled 1940  
 (E) Second Initial Flow 101  Hourly Standby \_\_\_\_\_ T-Out 2155  
 (F) Second Final Flow 158  Mileage 36 Comments \_\_\_\_\_  
 (G) Final Shut-In 1134  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1806  Straddle \_\_\_\_\_  
 Initial Open 45  Shale Packer \_\_\_\_\_  
 Initial Shut-In 45  Shale Packer \_\_\_\_\_  
 Final Flow 45  Extra Packer \_\_\_\_\_  
 Final Shut-In 45  Extra Recorder \_\_\_\_\_  
 Sub Total 1086  Day Standby \_\_\_\_\_  
 Total 1086  Accessibility \_\_\_\_\_  
 Sub Total 1086  Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1086  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative RAY Schwager **THANK you**  
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